

The Demand-Side Roadmap Federal and State Roles

FERC- DOE Demand Response Conference

Washington DC -- February 14, 2002

Richard Cowart



The Regulatory Assistance Project

50 State Street, Suite 3
Montpelier, Vermont 05602
Tel: 802.223.8199
Fax: 802.223.8172

email: rapcowart@aol.com
web: www.raponline.org



Four themes

- Demand response -- time dimension
 - DR Includes short-term responses (load management) AND long-term response (embedded efficiency) responses
- Links in the market chain
 - From wholesale market rules, to transmission tariffs, and retail rate design
- Strip out barriers:
 - Reveal the value of demand-side resources to **customers**
 - Align **utility** profits with cost-effective actions
 - Ask: “what is the profitable **business model** for this activity?”
- Challenge to FERC AND the states:
 - Eliminate barriers to demand response at wholesale, transmission, distribution, and retail



Wholesale barriers to load management and efficiency

- Supply-only bidding
- Load profiling by pools and RTOs
- Reliability rules and practices excluding demand-side resources
- Subsidies for wires and turbines
- Transmission pricing and expansion policies can undercut low-cost demand-side resources



Retail barriers to efficiency and load response

- Averaged rates and default service plans block price signals, slow innovation
- Disco rate designs promote throughput
- Uniform buy-back rates don't include premium for avoided distribution costs
- Utility as gatekeeper vs. utility as facilitator
 - Can customers or their agents sell directly into wholesale markets?
- Metering traditions, costs and standards



Demand Response:

Five substantive areas

- (A) Price-response in wholesale markets
- (B) Reliability programs: ancillary services and emergency curtailments
- (C) Transmission: rates & investment plans
- (D) Retail tariffs and rules
- (E) Efficiency resources at wholesale and retail



Demand-side Roadmap (A)

Wholesale market features

- Demand-side bidding
 - Price-sensitive load bids reveal a real demand curve
- Multi-settlements markets
 - Day-ahead settlement permits economic resales of planned load reductions
- Demand release resales
 - Resales into short-term markets will moderate price spikes and generator market power



Improving wholesale markets: State issues

- Power supply management by franchises and default providers:
 - How much demand is exposed to the spot market? How liquid will it be?
- Who can sell released power ?
 - Customers and their agents? Utilities only? both?
 - Who gets the savings -- customers or utilities?
- Revealing the full value of DR:
 - Can we offer customers the distribution savings as well as the wholesale market value of demand response?



The Load Profile Problem

- ▶ In wholesale settlements, LSEs often charged for usage on a customer profile basis (not tracking real-time usage)
- ▶ Same profile for "good" LSE and high cost LSE
- ▶ LSE will not benefit from high-value peak-load reductions unless a new profile is created for those customers
- ▶ Wholesale and retail problem
 - e.g., Mass. default service loads



Roadmap (B)

Reliability Programs

- Wholesale policy needs:
 - Needed: neutral terms for bidding reserves
 - Avoid expensive metering on dispersed assets
- Retail policy issues:
 - Can end-users and their agents provide ancillary services, or just utilities/LSEs?
 - Avoiding burdensome interconnection rules and charges
 - How to coordinate RTO-level and utility-run programs?



Efficient Reliability Decision Rule

- ▶ **Before "socializing" the costs of a proposed reliability-enhancing investment through uplift or tariff, PUCs and FERC should first require a showing:**
 - that the relevant market is fully open to demand-side as well as supply resources;
 - that the proposed investment is the lowest cost, reasonably-available means to correct a remaining market failure; and
 - that benefits from the investment will be widespread, and thus appropriate for broad-based funding.



Demand Roadmap (C): Transmission Policy

- **Transmission congestion pricing:**
reveals value of LM, EE, DG in load pockets
- **The rolled-in facilities problem:**
 - generators indifferent to costly locations
 - undermines load center resources
- **Transmission planning**
 - Transmission AND its alternatives



Transmission expansion- Demand-side issues

- **Efficient Reliability Decision Rule -**
 - A least cost “hard look” at proposed socialized costs
- **“Open Season” for transmission upgrades and their alternatives**
 - Expose proposed grid enhancements to marketplace alternatives
- **State transmission siting rules**
 - Recognize regional needs , but
 - Consider demand-side options in determining what those needs really are

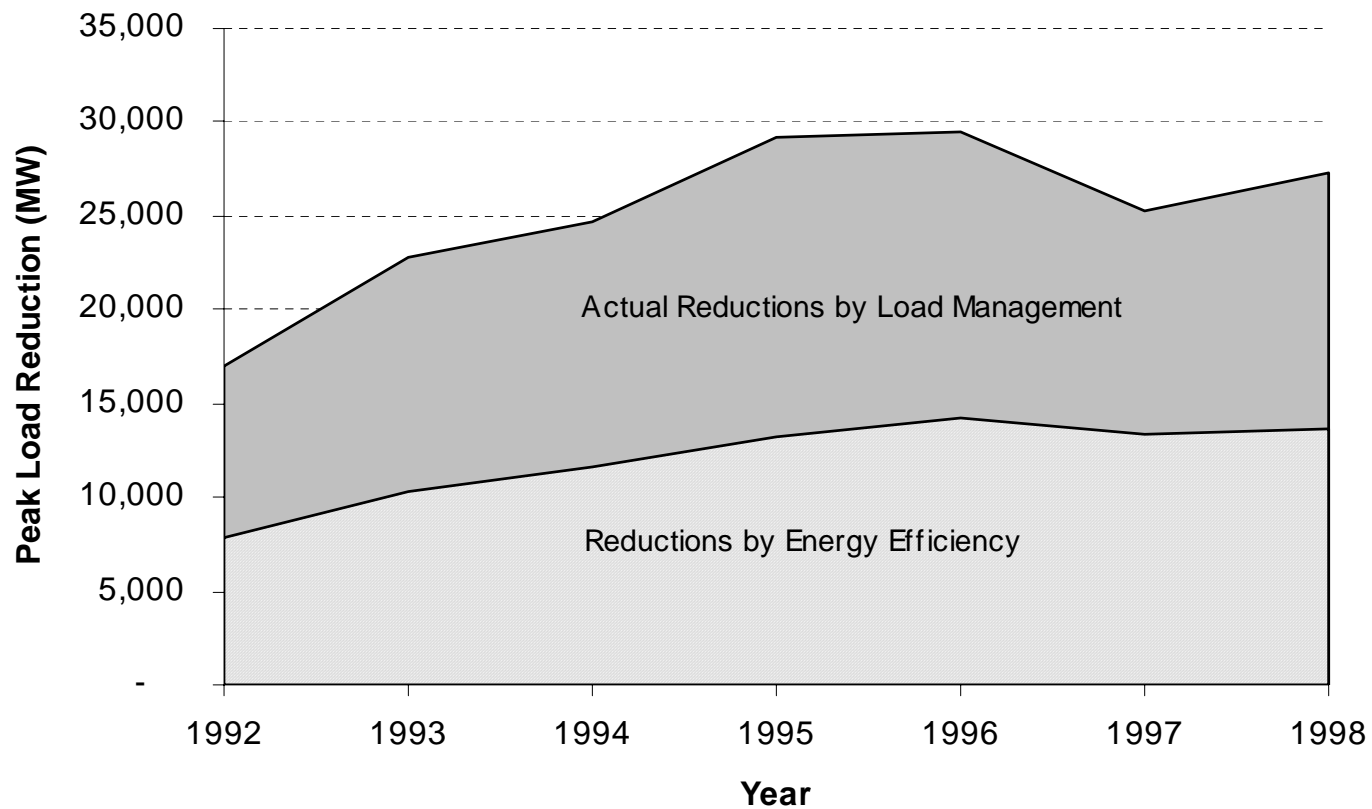


Demand Roadmap (D)

Retail tariffs

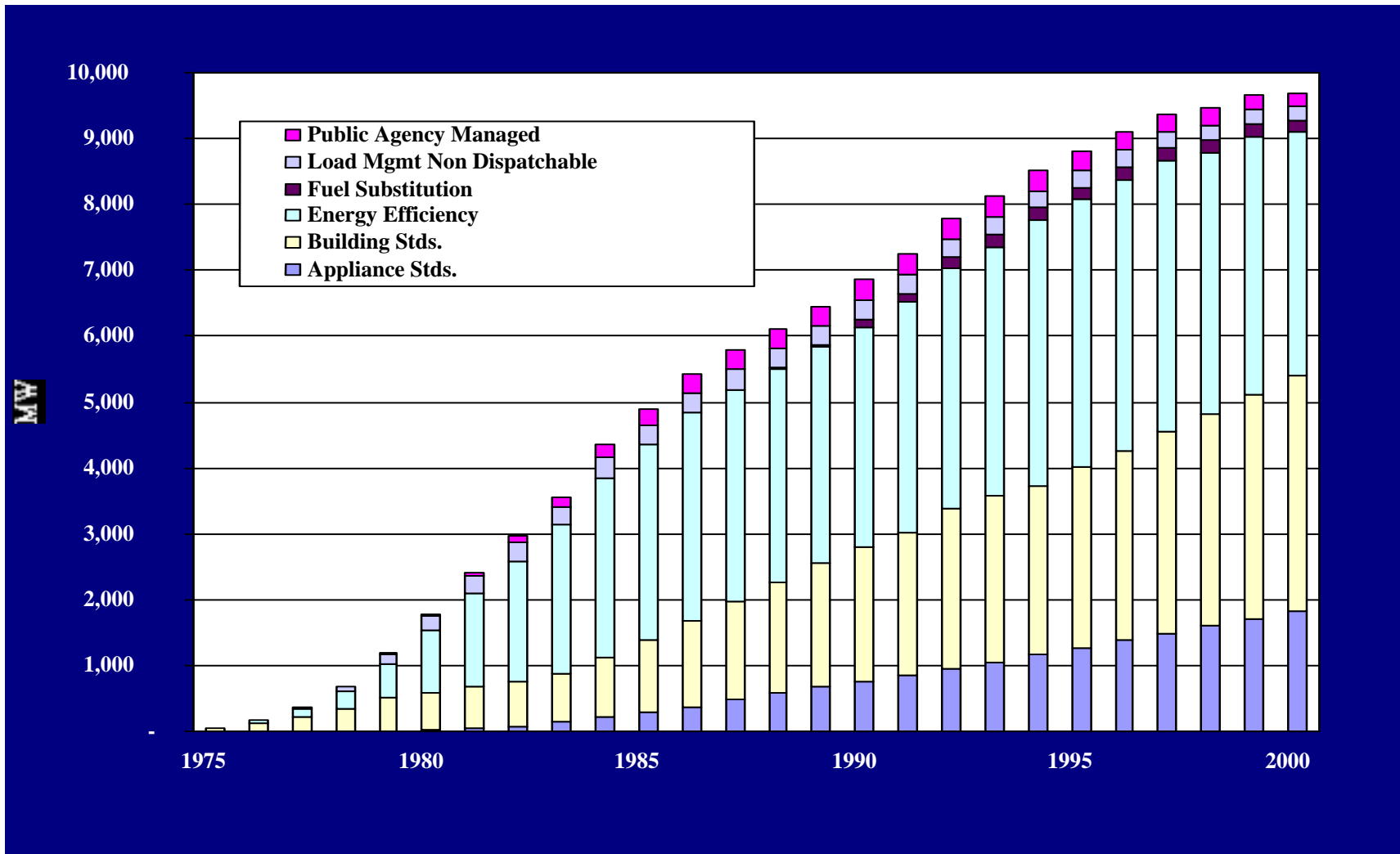
- State policy dilemma:
 - Most customers want uniform retail rates; but
 - TOU and market-based rates are needed to improve price response in the wholesale market
- How can states add TOU prices or price response options to franchise tariffs and default service plans?
- What about advanced metering? Mandatory or optional? Who owns the meter and its data?

DSM: Key role of Baseload Efficiency





Impact of California DSM Programs and Standards





Demand Roadmap (E)

Investing in Efficiency

- Policy challenge for states and FERC:
 - Customers save money with efficiency, but
 - Wires companies make money on throughput
- States need to reform Disco ratemaking to eliminate the throughput incentive
- States must reinvent/ reinforce efficiency and LM programs to overcome market barriers
- FERC should permit “regional reliability charges” to support cost-effective regional efficiency programs



Regional Reliability Charges

- ▶ **Uplift charges are a common element in pool rules and new markets**
- ▶ **Examples: spreading out the costs of congestion; paying for reliability measures that have widespread value**
- ▶ **Question: If the new RTO/ISO/Pool has power to assess "uplift" for imports, reserves or transmission to enhance reliability, why not for efficiency, load management, or DG?**



FERC, RTOs, and States: Working together

- New England Demand Response Initiative
- Facilitated stakeholder process
 - ISO-NE, 6 state PUCs, DOE , EPA, state air directors,
 - Market participants and advocates
- Breadth and depth
 - Examine market and policy barriers to price-responsive load, EE, DG -- top to bottom look
 - Propose coordinated policies and programs for wholesale, retail, and wires



For more information

- “Efficient Reliability: The Critical Role of Demand-Side Resources in Power Systems and Markets”
 - Richard Cowart, Published by NARUC June 2001
- “Demand-Side Resources and Regional Power Markets: A Roadmap for FERC”
 - Richard Cowart, RTO Futures, September 2001
- New England Demand Response Initiative
 - web link at www.raabassociates.org
- papers posted at www.raponline.org